

The Development of the Poaceae Family Scientific Book in the Tabanio Beach Forest on Students' Creative Thinking Ability

Nurul Hikmah ^{(1)*}, Dharmono ⁽¹⁾, Atiek Winarti ⁽²⁾

⁽¹⁾ Master Program of Biology Education, Postgraduate Program, University of Lambung Mangkurat, Banjarmasin City, South Kalimantan, Indonesia

⁽²⁾ Study Program of Chemistry Education, Departement of Mathematics and Natural Science Education, Faculty of Teacher Training and Education, University of Lambung Mangkurat, Banjarmasin City, South Kalimantan, Indonesia

*Corresponding Author Email: nurulhikmah1620113320006@gmail.com

Article Information

Keyword:

Creative Thinking
Scientific Books
The Poaceae Family
Development Research

Kata Kunci:

Berpikir Kreatif
Buku Ilmiah
Familia Poaceae
Penelitian Pengembangan

History:

Received : 13/01/2021

Accepted : 21/06/2021

Published : 28/06/2021

Abstract

The evaluation of students' creative thinking has not been optimal, the use of books in the Higher Plant Botany course at the Biology Education Faculty of ULM in the Poaceae family sub-material based on creative thinking is still limited, so enrichment teaching materials are needed by utilizing local potential and using aspects of thinking creative. The scientific book development model adapted Tessmer's formative evaluation which was limited to self-evaluation, expert review of 3 ULM Master of Biology Education lecturers which included material experts, linguists and media experts, one-to-one evaluation and small group evaluation which included 8 undergraduate students of Biology Education FKIP ULM who have passed the Higher Plant Botany course. The assessment given by experts to scientific books obtained valid criteria (3.59). Respondents' assessment of the practicality of the content obtained very good criteria (88.89%). Respondents' assessment of the practicality of expectations obtained very good criteria (83%). The observer's assessment on the fulfillment of expectations obtained very good criteria (82%). Assessment of the effectiveness of expectations obtained high criteria (80.80) and increased creative thinking skills at three meetings obtained moderate N-gain criteria. Scientific books are declared valid, practical and effective.

Abstrak

Belum optimalnya evaluasi berpikir kreatif mahasiswa, penggunaan buku pada mata kuliah Botani Tumbuhan Tinggi di S1 Pendidikan Biologi FKIP ULM pada sub-materi Famili Poaceae berbasis berpikir kreatif yang masih terbatas, sehingga diperlukan bahan ajar pengayaan dengan memanfaatkan potensi lokal dan menggunakan aspek-aspek berpikir kreatif. Model pengembangan buku ilmiah mengadaptasi evaluasi formatif Tessmer yang dibatasi hanya pada *self evaluation*, *expert review* dari 3 dosen Magister Pendidikan Biologi ULM yang meliputi ahli materi, ahli bahasa dan ahli media, *one-to-one evaluation* dan *small group evaluation* yang meliputi 8 mahasiswa S1 Pendidikan Biologi FKIP ULM yang telah lulus mata kuliah Botani Tumbuhan Tinggi. Penilaian yang diberikan ahli terhadap buku ilmiah memperoleh kriteria valid (3,59). Penilaian responden pada kepraktisan isi memperoleh kriteria yang sangat baik (88,89%). Penilaian responden pada kepraktisan harapan memperoleh kriteria sangat baik (83%). Penilaian observer pada keterlaksanaan harapan memperoleh kriteria sangat baik (82%). Penilaian keefektifan harapan memperoleh kriteria tinggi (80,80) serta peningkatan kemampuan berpikir kreatif pada tiga pertemuan memperoleh kriteria N-gain sedang. Buku ilmiah dinyatakan valid, praktis dan efektif.

How to cite: Hikmah, N., Dharmono, D., and Winarti, A. (2021). The Development of the Poaceae Family Scientific Book in the Tabanio Beach Forest on Students' Creative Thinking Ability. *BIO-INOVED : Jurnal Biologi-Inovasi Pendidikan*, 3(2), 131-137.

A. Introduction

Research on creative thinking in Biology education undergraduate students, FKIP ULM, was previously conducted by Yuliani (2017) who stated that the profile of the creative thinking ability level of Biology Education FKIP students at Lambung Mangkurat University in solving the dominant plant ecology problem was quite creative. A similar study was also conducted by Riyadi (2017) that students of Biology Education FKIP Lambung Mangkurat University in the Animal Ecology course showed results at a fairly creative level, so a breakthrough in learning was needed to improve this creative thinking ability. One of the efforts to improve creative thinking skills is to develop local potential-based learning resources.

Annurrahman (2009) states that parties related to education should be able to optimize the utilization of local potentials owned by their regions as learning materials. This can be realized through education that is oriented to local potential while still being directed to improve student abilities and achievements, because the educational process is not only carried out by transferring knowledge from lecturers to students, but students must be able to learn from the environment and everyday life. This is supported by the opinion that with learning based on local potential, students do not feel foreign to the various facilities used in learning (Hatimah, 2006). One of the local potentials in South Kalimantan is the coastal forest habitat, where this habitat is home to various types of living things that can be used as a source of learning biology.

Observations of the coastal forest of Tabanio found a variety of plants that are very important in maintaining coastal conditions from erosion of seawater flows and excessive evaporation of water, especially plants of the Poaceae family. In addition to playing an ecological, economical and pharmacological role in the Poaceae family in the Tabanio coastal forest, it is also a potential source of learning. Therefore, it is necessary to do research.

The books used in the subject of Higher Plant Botany, the sub-material of the Poaceae family in Biology Education, FKIP ULM, are still limited in terms of descriptions and examples of species, especially those that are local to South Kalimantan. Books that are most often used by students during lectures, such as Dasuki (1994) only briefly explain the anatomy, morphology, habitat and botanical aspects of this family in general. Dasuki (1994) ends the discussion of the

Poaceae family by citing examples of several species and accompanying them with the name of the area and the most common uses of the species. The book by Steenis *et al.* (2008) describes this family by starting to discuss the morphology and the key of determination which the author also uses in the scientific book "Poaceae Family in Tabanio Coastal Forest". Steenis (2008) re-explains the morphology and the key to determination in each genus identified by him and mentions examples of species that are commonly found in that genus. Even with a more detailed discussion than Dasuki (1994), most of the examples of species are not given pictures to add visualization for book users, besides that not all examples of species in them are found in South Kalimantan. This causes students to be confused about identifying plants in the Poaceae family as a whole, especially those that live in the South Kalimantan region, besides the books used do not contain features to improve thinking skills.

This research is expected to contribute in providing development for the learning process of Higher Plant Botany and as an example of developing learning resources based on local potential and aiming to improve students' creative thinking skills.

B. Materials and Method

Development research adapted Tessmer's (1998) formative evaluation due to the adjustment to the Covid-19 pandemic situation. This development research is expected to produce a valid, practical, and effective Scientific Book on the Poaceae Family.

The type of formative evaluation carried out is limited to only 4 test steps, namely self-evaluation, expert review, individual test (one-to-one evaluation) and small group evaluation. Each test aims to determine 1) content validity, 2) content practicality) and 3) the practicality and effectiveness of expectations.

Data collection techniques for developing scientific books to determine their validity, practicality, and effectiveness are based on the formulation of research objectives, namely:

1. Data on the validity of scientific books developed were obtained from expert validation data and supported by student individual test data.
2. The data on the practical expectations of scientific books developed were obtained from respondents' assessment of the practicality of

scientific book expectations and observer's assessment of the implementation of expectations in using scientific books in the small group test.

3. Data on the effectiveness of the expectations of scientific books developed were obtained from the assessment of creative thinking aspects from Liliawati and Puspita (2010) including fluency (thinking smoothly), flexibility (thinking flexible), originality (original thinking) and elaboration (decomposition) which was measured in three practicums in small group test.

C. Result and Discussion

1. Scientific Book Validity

The scientific book validity of the Poaceae family in Tabanio coastal forest was obtained from expert validation and individual testing. The expert validation involved three lecturers of the Master of Biology Education ULM, each of which was a material expert, linguist and media expert, while the individual test involved three undergraduate Biology Education FKIP ULM students who had passed the Higher Plant Botany course.

The validity of the scientific book of the Poaceae Family in Tabanio Coastal Forest on various aspects can be seen in table 1 below.

Tabel 1 Results of scientific book validation of the poaceae family in Tabanio beach forest by experts

No	Assessment Indicators	\bar{X}
Content feasibility aspect		
1.	Material compatibility with CPL and CPMK	3,72
2.	Accuracy of material	3,80
3.	Supporting learning materials	3,50
4.	Material updates	3,83
Aspects of presentation eligibility		
5.	Presentation technique	3,83
6.	Supporting presentation	3,44
7.	Learning presentation	3,67
8.	Complete presentation	3,67
Language assessment		
9.	Straightforward	3,33
10.	Communicative	3,44
	Dialogis dan interaktif	3,67
11.	Conformity with the level of development of students	3,50
12.	Coherence and integration of the flow of thought	3,33
Assessment of creative thinking skills		
13.	The nature of creative thinking	3,56
14.	Sub-indicator of Creative Thinking	3,42
Average		3,59
Criteria		Valid

Source: Results of data processing

Scientific books are declared eligible in content, because the preparation of scientific books is carried out referring to the semester program plan in the Biology Education S1 curriculum, FKIP University of Lambung Mangkurat and fulfills the components required by the curriculum in the Poaceae material. This book content is arranged in such a way also displays creative thinking that are in accordance with the existing curriculum. According to Putra *et al.* (2016) in compiling the material in teaching materials, it is very important to pay attention to the suitability of the content of the material with the curriculum, this aims so that the learning materials presented are integrated with the needs of the curriculum being undertaken.

In terms of the accuracy of the material, the preparation of the Poaceae Family scientific book is very concerned with the latest and relevant facts, both directly from the field and additional

information from the literature according to the required information. The preparation of the material is carried out by taking into account the development of science about the Poaceae family which has developed very rapidly recently. This is in accordance with the suggestion of Gultom (2012) and Fajeriadi *et al.* (2019) which states that textbook materials should be relevant, contain linear materials/discussions, and constitute a unified whole (systematic).

The writing of the book is made in a straightforward manner so that there are no ambiguous sentences that lead to theories or concepts so that they obscure them. This is in accordance with the rules of writing textbooks, namely using standard Indonesian and easy to understand (Gultom, 2012). Scientific books are also designed to be dialogical and interactive by displaying the ability to motivate messages or

information in improving students' creative thinking skills. This is so that when the book is used there is a two-way communication with the reader so that it is not monotonous and boring. As the opinion that learning media are easily understood by students if the media contains important information and has certain values and benefits that are raised through the learning media used. The linguistic aspect must also be a standard language, in accordance with enhanced grammar and spelling (Darmawan, 2014).

2. Practicality of Scientific Books

a. Content Practicality

Content practicality data obtained from one-to-one evaluation. One-to-one evaluation of the scientific book *Familia Poaceae* in the Tabanio Coastal Forest was conducted to get an overview of the practicality of the contents of the students when using scientific books. The practicality data of the contents can be seen in the following table 2 below.

Table 2 Individual test results by students

No.	Assessment Aspect	%	Criteria
1	Scientific Book Display Aspect	95,83	Very good
2	Scientific Book Material Presentation Aspect	91,67	Very good
3	Benefits of Scientific Books	86,11	Very good
Total Percentage		88,89	Very good

Source: Results of data processing

The assessment of the practicality of the content in the presentation of the material, namely the example components in scientific books and the ease of understanding sentences and symbols or symbols used in the book are considered very good. This is reinforced by the opinion of Darmawan (2014) which states that learning media are easily understood by students if the media contains important information and has certain values and benefits that are raised through the learning media used. As for the linguistic aspect, the language used must also be a standard language, in accordance with enhanced grammar and spelling.

Assessment on the aspects of the benefits of scientific books, the three students in this test strongly agreed that the compiled books could be understood easily and students obtained new information after using them. This cannot be separated from the preparation of scientific books based on the results of the latest research and adjustments to the needs of contemporary thinking skills as stated by Gultom (2012) which states that textbook materials should be relevant, contain linear materials/discussions, and constitute a unified whole (systematic).

Data on the practical results of the *Poaceae* Family Scientific book are then presented in the form of data on the practicality of expectations and the implementation of expectations obtained through the small group test based on student responses through the instrument of practical expectations and observer observations.

b. Practicality of Expectations

Data on practicality of scientific books were obtained from the small group test results in the form of practicality and implementation of expectations. The following is the expected

practicality test data which can be seen in table 3 below.

Based on the practical data, it can be seen that scientific books are easy for students to understand and can direct students to improve their creative thinking skills because the instructions are very clear. Scientific books that are compiled can be studied in a short time and can be used outside of study hours. Overall, scientific books are interesting, so that after being validated, they get a percentage of 83%, which shows that the student response shows the criteria for strongly agreeing with the practicality of the *Poaceae* Family Scientific book. The percentage of students who disagree on the practicality of the expectation data is 17%. After passing the testing stage, it is known the expected practicality in using scientific books developed in accordance with the reality in the field. The practicality test of product development is very important before the product is used to measure its effectiveness. As explained by Tessmer (1998), that the focus on the practicality test of small group evaluation is seen in data about the ability of students to ensure the success of improving product results before field testing.

c. Implementation of Expectations

The practicality data of the *Poaceae* Family Scientific book is also supported by data from the results of the implementation observed by observers at the time the research was conducted. The implementation of expectations is obtained through the results of the small group in table 4.

All students read and understand the introductory contents of scientific books well, they also do this in order to get an initial impression before moving on to the next page in the book. In this test, the majority of students read books as a

whole but in a fast way considering the time available is not enough to read books slowly, carefully and thoroughly, besides that after reading scientific books, students are also asked to make observations so that students will read books carefully and thoroughly on the part that has to do with the practicum sheet. This time and

concentration constraint, which the author believes makes a small number of students not read scientific books as a whole, is in accordance with the opinion of Suyono and Hariyanto (2011) which states that reading interest is strongly influenced by concentration and the external environment.

Table 3 The results of the practicality expectation test

No	Question	Expectations (%)	
		Yes	No
1	Did you read the introduction to this Poaceae scientific book well?	100	0
2	Have you read this Poaceae science book in its entirety?	100	0
3	Do you not find any key words that are considered difficult or new to you in this Poaceae science book?	60	40
4	Do you take notes if you find words/sentences that catch your attention or that you don't understand in this Poaceae science book?	100	0
5	Have you read the contents of this Poaceae scientific book carefully, part by part?	20	80
6	Do you really understand this Poaceae scientific book by discussing it with your colleagues or through your own understanding?	60	40
7	Do you search the internet and the library that accompanies the Commelinidae Class Children's Basic Materials to increase your understanding and observe it carefully?	100	0
8	Did you observe the surrounding Poaceae family and take notes?	100	0
9	Do you compare your observations with those in this Poaceae scientific book?	100	0
10	Do you take advantage of the learning activities by asking the lecturers things that you do not understand?	100	0
11	Has the content of scientific books related to improving creative thinking skills never been done before?	40	60
12	Are the instructions given to acquire creative thinking skills in scientific books understandable?	100	0
13	Do you seriously work on the provided practicum sheets?	100	0
Average		83%	17%

Source: Results of data processing

Table 4 Test of the implementation of scientific books

No	Question	Expectations (%)	
		Yes	No
1	Did the student read the introduction to this Poaceae scientific book well?	100	0
2	Do students read this Poaceae scientific book in its entirety?	100	0
3	Do students not find key words that are considered difficult or new to you in this Poaceae scientific book?	60	40
4	Do students take notes if they find words/sentences that interest you or that you don't understand in this Poaceae science book?	100	0
5	Do students read the contents of this Poaceae scientific book carefully in parts?	20	80
6	Do students really understand this Poaceae scientific book by discussing it with their peers or through your own understanding?	60	40
7	Is to increase understanding, students search the internet and the library that accompanies the Commelinidae Class Children's Basic Materials and observe them carefully	100	0
8	Do students observe the Poaceae family around them and make notes?	100	0
9	Do students compare their observations with those in this Poaceae scientific book?	100	0
10	Do students take advantage of learning activities by asking the lecturers about things that students do not understand?	100	0
11	Has the contents of scientific books related to improving creative thinking skills never been done before by students?	40	60
12	Can the students understand the instructions given to acquire creative thinking skills in scientific books?	100	0
13	Do students work on the available practicum sheets seriously?	100	0
Average		83%	17%

Source: Results of data processing

In addition to sparking discussion among students to search the internet if there is a fellow students, this book also finally forces discussion that is not explained in the book. This is

one of the shortcomings of the book considering that one of the organs in the Poaceae family plant, namely flowers, should have a much more detailed description, but the author's limitations when observing flower organs did not use a microscope to clarify the structure and morphology of flowers. This cannot be faulted considering that students tend to use practical ways to explore information that they have not obtained and this is available on the internet (Rahmat, 2004).

Furthermore, students do not make notes if they find interesting sentences/words in scientific books, this happens because the implementation of the practicum is enriching and is outside the lecture time so students wait for what researchers' instructions to bring. In addition, students only use the stationery provided by the researcher so that there is no special notebook that can be used to make important notes from scientific books. This is due to the low level of personal initiative as Muyana (2018) explains that personal initiative is an individual's ability to decide something is right without having to be told by others. Hamidah and Palupi (2012) stated that the lack of initiative and creative ideas in dealing with a problem can cause learning objectives not to be maximized.

According to Akbar (2013) good learning is done interactively, inspiring, fun, challenging and motivating students to participate actively. Based on the description of the student's response to the practicality of scientific books and their developed implementation, the elements of practicality of scientific books have been fulfilled.

3. Effectiveness of Scientific Books

Data The effectiveness of scientific books developed is obtained from the results of the achievement of indicators of creative thinking skills carried out by students through a small group test of five students to obtain data on the effectiveness of expectations through the work of student practicum sheets containing indicators that are assessed to include fluency, flexibility of thinking (Flexibility), originality of thinking (originity) and the ability to describe (elaboration). Data on effectiveness are described in Table 5 below.

Table 5 Expectation effectiveness data

No	Aspect				Σ	Criteria
	Flu	Flex	Origin	Elabor		
1	9,40	9,80	11,80	11,00	42,00	Low
2	15,80	17,40	16,80	16,20	66,20	Medium
3	20,20	20,00	20,00	20,60	80,80	High

Source: Results of data processing

The measurement of the effectiveness of the Poaceae Family scientific book in this study only reached the effectiveness of the expectations

obtained from the small group test results seen from student learning outcomes carried out for three meetings and the results showed that the effectiveness of expectations was included in the high category with a value of 80.80 and this indicates that the Poaceae Family Scientific Book is effective when used in learning by Biology Education Undergraduate Students, FKIP Lambung Mangkurat University in improving students' creative thinking skills because student learning outcomes are >80 in accordance with the minimum completeness criteria value of enrichment (Lutfiasari, 2019).

Based on a more in-depth search, data is obtained that scientific books that are used regularly can improve students' creative thinking skills effectively. This can be seen from the increase in creative thinking skills as evidenced by the moderate N-Gain results at each meeting. The results of the effectiveness of student expectations in more detail will be shown in table 6 below:

Table 6 N-gain Test Results

Creative Thinking Indicator	N-Gain		
	Meeting 1	Meeting 2	Meeting 3
Fluency	0,41	0,48	0,69
Flexibility	0,50	0,34	0,67
Originality	0,38	0,39	0,62
Elaboration	0,37	0,50	0,69
Average	0,42	0,43	0,67
Criteria	medium	medium	medium

Source: Results of data processing

The increase in student learning outcomes at each meeting was normalized using N-gain. Based on the data that has been normalized, it can be seen that there is an increase in students' creative thinking skills using the Poaceae Family scientific book at each meeting. The increase occurred slowly in the expectation effectiveness test and the N-gain at each meeting increased in the moderate category but with an increasing score at each meeting.

The increase in learning outcomes in the medium category was caused by the process factor in studying the Poaceae family that students passed slowly based on student habits which were difficult processes to be forced to change directly. According to Utami (2018), learning outcomes include verbal information, motor skills or the implementation of an action to achieve results, having an attitude based on internal conditions, intellectual skills to carry out unique cognitive activities, and cognitive strategies.

This competency is in the form of metacognitive abilities that are shown in the form of thinking about the thinking process and learning how to learn so that it appears in every change in aspects such as knowledge, understanding, habits,

skills, appreciation, emotional, social relations, physical, ethical or character, and attitudes. . Thus, the increase in learning outcomes even though it occurs slowly, this is a natural thing and becomes the basis for continuing to be trained. An insignificant increase in students' creative thinking skills is a normal thing to happen if the treatment given is carried out in a not too long time considering that thinking skills cannot be improved in only a relatively short time (Marzani, 2011).

D. Conclusion

Scientific books developed can be categorized as valid with a score of 3.59 and can be used without revision in learning activities. Scientific books developed can be categorized as practical with a percentage of 83%, this shows that students' responses strongly agree with the practicality of scientific books in the Poaceae family. The scientific book that was developed was declared to be effectively used to improve creative thinking skills based on the results of increasing creative thinking skills and student learning outcomes were classified as high, namely the effectiveness of expectations with a value of 80.80. The increase occurred at each meeting as evidenced by a moderate N-gain. It is possible for further researchers to detail descriptions of flowers in scientific books, enter key determinants to species and continue this research by carrying out field test evaluations.

E. References

- Akbar, S. (2013). *Instrumen Perangkat Pembelajaran*. Bandung: Remaja Rosdakarya.
- Annurahman. (2009). *Belajar dan Pembelajaran*. Bandung: Alfabeta.
- Darmawan. (2014). Mitigasi Bencana Sebagai Bahan Pembelajaran IPA dan IPS pada Kurikulum 2013 untuk Jenjang Pendidikan Dasar Kelas 5. *Jurnal Pedagogia*, 8(1), 322-329.
- Dasuki, U A (1994) *Sistematik Tumbuhan Tinggi*. Pusat Antar Universitas Bidang Ilmu Hayati Institut Teknologi Bandung, Bandung.
- Gultom, S. (2012). *Pedoman Penulisan Buku Ajar Peningkatan Kompetensi Pendidik Pendidikan Nonformal*. Jakarta: Kemendikbud.
- Fajeriadi, H., Zaini, M., and Dharmono, D. (2019). Validity of the Gastropods Popular Scientific Book in the Pulau Sembilan Kotabaru Coastal Area for High School Students. *Journal of Biology Education*, 8(2), 142-149.
- Hamidah, S., and Palupi, S. (2012). Peningkatan Soft Skills Tanggung Jawab dan Disiplin Terintegrasi Melalui Pembelajaran Praktik Patiseri. *Jurnal Pendidikan Karakter*, 2(2), 143-152.
- Hatimah, I. (2006). Pengelolaan pembelajaran berbasis potensi lokal di PKBM. *Mimbar pendidikan*, 1(25), 39-45.
- Lutfiasari, N (2019). Pengembangan buku ilmiah populer famili myrtaceae dalam meningkatkan kemampuan berpikir kritis mahasiswa. *Thesis*. Lambung Mangkurat University. Unpublished.
- Marzani, 2011, Penerapan *e-learning* Berbasis moodle Untuk Meningkatkan Penguasaan Konsep dan Keterampilan Berpikir Kritis Siswa pada Konsep Cahaya di SMP. *Thesis*. UPI Bandung, tidak diterbitkan.
- Muyana, S. (2018). Prokrastinasi akademik dikalangan mahasiswa program studi bimbingan dan konseling. *Counsellia: Jurnal Bimbingan dan Konseling*, 8(1), 45-52.
- Putra, D.R., Rinanto.Y, Dwiastuti.S, Irwan.I. (2016). Peningkatan Kemampuan Berpikir Kreatif Siswa melalui Model Pembelajaran Inkuiri Terbimbing pada Siswa Kelas XI MIA 1 SMA Negeri Colomadu Karanganyar Tahun Pelajaran 2015/2016. *Proceeding Biology Education Conference* (ISSN: 2528-5742), Vol 13, No. 1: 330-334.
- Rahmat, H. S. W. S. R. (2004). Kontrol Diri Dan Kecenderungan Kecanduan Internet. *Humanitas: Jurnal Psikologi Indonesia*, 1(1), 245-26.
- Riyadi, A.S. (2017). Kemampuan Berpikir Kreatif Mahasiswa Pendidikan Biologi dalam Penyelesaian Masalah Ekologi Hewan. *Thesis*. Lambung Mangkurat University. Unpublished.
- Steenis, C.G.G.J., Hoed, G. den/Bloembergen, S. and Eyma, P.J (2008). *Flora: Untuk sekolah di Indonesia* (12th ed.) (Moeso Surjowinoto, Penerjemah.). Jakarta: Pradnya Paramita.
- Suyono, S. and Hariyanto, H. (2011). *Belajar dan Pembelajaran*. Bandung: PT. Remaja Rosdakarya.
- Tessmer, M. (1998). *Planning and Conduction Formative Evaluations, Improving the Quality of Education and Training*. Kogan Page: London.
- Utami, S. (2018). Penggunaan Media Gambar untuk Meningkatkan Motivasi dan Hasil Belajar IPA Siswa Kelas III Sekolah Dasar. *Primary: Jurnal Pendidikan Guru Sekolah Dasar*, 7(1), 137-148.
- Yuliani, A. (2017). Kemampuan Berpikir Kreatif Mahasiswa Pendidikan Biologi dalam Penyelesaian Masalah Ekologi Hewan. *Thesis of Lambung Mangkurat University*. Unpublished.